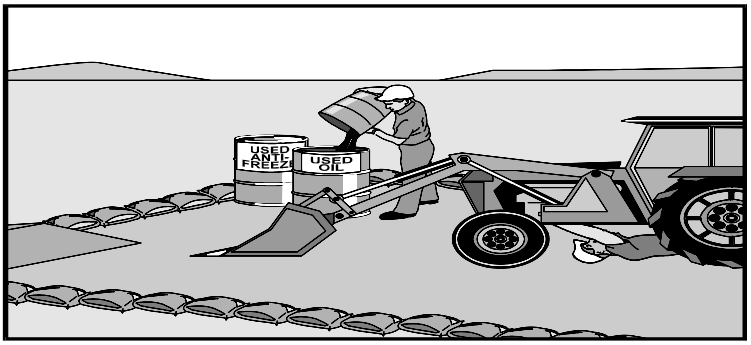
ACTIVITY: Vehicle and Equipment Maintenance	CP – 14



HISTORIC CITY OF FRANKLIN

Targeted Constituents				
! Significant Benefit	™ Partial Benefit	" Low or Unknown Benefit		
" Sediment	" Heavy Metals	" Floatable Materials	" Oxygen Demanding Substances	
" Nutrients	™ Toxic Materials	™ Oil & Grease	" Bacteria & Viruses	" Construction Wastes

Implementation Requirements				
! High	™ Medium	" Low		
" Capital Costs	" O & M Costs	" Maintenance	" Suitability for Slopes >5%	™ Training

Description

Prevent or reduce the discharge of pollutants to stormwater from vehicle and equipment maintenance by running a "dry site". This involves using off-site facilities, performing work in designated areas only, providing cover for materials stored outside, checking for leaks and spills, containing and cleaning up spills immediately, and training employees and subcontractors. This management practice is likely to create a significant reduction in toxic materials and oil and grease.

Approach

Keep vehicles and equipment clean, don't allow excessive build-up of oil and grease.

Use off-site repair shops as much as possible. Maintaining vehicles and equipment outdoors or in areas where vehicle or equipment fluids may spill or leak onto the ground can pollute stormwater. If you maintain a large number of vehicles or pieces of equipment, consider using an off-site repair shop. These businesses are better equipped to handle vehicle fluids and spills properly. Performing this work off-site can also be economical by eliminating the need for a separate maintenance area.

Waste Reduction

Parts are often cleaned using solvents such as trichloroethylene, 1,1,1-trichloroethane, or methylene chloride. Many of these parts cleaners are harmful and must be disposed of as a hazardous waste. Reducing the number of solvents makes recycling easier and reduces hazardous waste management costs. Often, one solvent can perform a job as well as two different solvents. Also, if possible, eliminate or reduce the amount of hazardous materials and waste by substituting non-hazardous or less hazardous materials. For example, replace chlorinated organic solvents (1,1,1-trichloroethane, methylene chloride, etc.) with non-chlorinated solvents. Non-chlorinated solvents like kerosene or mineral spirits are

less toxic and less expensive to dispose of properly. Check list of active ingredients to see whether it contains chlorinated solvents. The "chlor" term indicates that the solvent is chlorinated. Also, try substituting a wire brush for solvents to clean parts.

If maintenance must occur on-site, use designated areas, located away from water courses, to prevent the run-on of stormwater and the runoff of spills.

Always use secondary containment, such as a drain pan or drop cloth, to catch spills or leaks when removing or changing fluids.

Place a stockpile of spill cleanup materials where it will be readily accessible.

Place drip pans or absorbent materials under paving equipment when not in use.

Use adsorbent materials on small spills rather than hosing down or burying the spill. Remove the adsorbent materials promptly and dispose of properly.

Regularly inspect on-site vehicles and equipment for leaks, and repair immediately.

Promptly transfer used fluids to the proper waste or recycling drums. Don't leave full drip pans or other open containers lying around.

Check incoming vehicles and equipment (including delivery trucks, and employee and subcontractor vehicles) for leaking oil and fluids. Do not allow leaking vehicles or equipment on-site.

Oil filters disposed of in trashcans or dumpsters can leak oil and pollute stormwater. Place the oil filter in a funnel over a waste oil recycling drum to drain excess oil before disposal. Oil filters can also be recycled. Ask your oil supplier or recycler about recycling oil filters.

Store cracked batteries in a non-leaking secondary container. Do this with all cracked batteries, even if you think all the acid has drained out. If you drop a battery, treat it as if it is cracked. Put it into the containment area until you are sure it is not leaking.

Segregate and recycle wastes, such as greases, used oil or oil filters, antifreeze, cleaning solutions, automotive batteries, hydraulic, and transmission fluids.

Train employees and subcontractors in proper maintenance and spill cleanup procedures.

For a quick reference on disposal alternatives for specific wastes, see the table presented in the Employee/Subcontractor Training BMP fact sheet.

Perform maintenance activities on paved surfaces where practical.

Use diversion berms to protect maintenance areas from run-on.

Provide spill containment dikes or secondary containment around stored oil and chemical drums.

For long-term projects, consider using portable tents or covers over maintenance areas.

Do not dump fuels and lubricants onto the ground.

Do not place used oil in a dumpster or pour into a storm drain or watercourse.

Do not bury used tires.

Recycling/Disposal

Separating wastes allows for easier recycling and may reduce disposal costs. Keep hazardous and non-hazardous wastes separate, do not mix used oil and solvents, and keep chlorinated solvents (like 1,1,1-trichloroethane) separate from non-chlorinated solvents (like kerosene and mineral spirits).

Do not dispose of extra paints and coatings by dumping liquid onto the ground or throwing it into dumpsters. Allow coatings to dry or harden before disposal into covered dumpsters.

Maintenance

Keep ample supplies of spill cleanup materials on-site.

Inspect maintenance areas on a regular schedule.

Maintain waste fluid containers in leak proof condition.

Vehicle and equipment maintenance areas shall be inspected regularly.

Inspect equipment for damaged hoses and leaky gaskets routinely. Repair or replace as needed.

Limitations

Sending vehicles/equipment off-site should be done in conjunction with a stabilized construction entrance.

Outdoor vehicle or equipment maintenance is a potentially significant source of stormwater pollution. Activities that can contaminate stormwater include engine repair and service, particularly changing or replacement of fluids, and outdoor equipment storage and parking (dripping engines). For further information on vehicle or equipment servicing, see CP-13: Vehicle and Equipment Fueling.

Primary References

California Storm Water Best Management Practice Handbooks, Construction and Industrial Handbooks, CDM et.al. for the California SWQTF, 1993.

Caltrans Storm Water Quality Handbooks, CDM et.al. for the California Department of Transportation, 1997.

Subordinate References

Best Management Practices and Erosion Control Manual for Construction Sites; Flood Control District of Maricopa County, AZ, September 1992.

Blueprint for a Clean Bay-Construction-Related Industries: Best Management Practices for Storm Water Pollution Prevention; Santa Clara Valley Nonpoint Source Pollution Control Program, 1992.

Coastal Nonpoint Pollution Control Program: Program Development and Approval Guidance, Working Group Working Paper; USEPA, April 1992.